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## VASILIEV'S *IMAGINARY LOGIC* AND THE TREATMENT OF CONTRADICTION IN EPISTEMIC LOGIC

In his *Imaginary Logic* Vasiliev attempted to pave the way for a new logic, which considerably deviates from the traditional classical logic. He addresses himself to the task, to open space for a genuine non-classical logic, "to demonstrate that a new logic and other logical operations than those which we use are possible, to show that our Aristotelian logic is only one among many possible logical systems. This new logic will not be a new presentation of the old logic, it will differ not in the display, but in the treatment of the logical operations themselves; this will be the "new logic", and not a new treatise concerning logic" ([3], p. 53).

Vasiliev initiates a free view on possible logical systems, a view which opens important perspectives for the development for different non-classical logics. Not convincing are, however, the reasons given by Vasiliev for the development of a new logic and the description of the relations between the new logic and the received Aristotelian logic, which is treated by Vasiliev as the traditional classically determined logic.

Especially the following points of a misconception about the relation between old (Aristotelian or classical) logic and the new deviant (imaginary or non-classical) logic should be addressed:

1. Vasiliev holds that the logical laws are determined by the features of the world: They can be sound in one world but unsound in another world: "While the Aristotelian logic is true for our world, the non-Aristotelian logic can be true only in some different world"

([3], p. 54). This other world of the non-Aristotelian imaginary logic is a world differing from the real world, an imaginary world, a world purely ideally constructed ([3], p. 54).

2. Based on the differing world-reference of classical and imaginary logic, Vasiliev draws the conclusion, that between the two logics exists a contradictory opposition, confusing "contradictory" with "contrary", because he intends to assert only that the formulae of classical and imaginary logic are excluding each other: "The formulae of both logics will stand in a contradictory opposition: the truth of the formulae of imaginary logic excludes the truth of the formulae of our Aristotelian logic and vice versa. Because of this, not both can be true for one and the same world" ([3], p. 54). Vasiliev presupposes only two different worlds: the real and the imaginary world. However it is not excluded, that one considers different imaginary worlds, for which according to Vasiliev different logical laws should be true. So there is no excluded middle for the logical laws of the real world and the imaginary world of Vasiliev.

3. Vasiliev has in mind a special imaginary logic, one in which the law of contradiction does not hold. So in the imaginary logic one logical law is missing, which holds in the Aristotelian logic. But we have in the imaginary logic no concerning the law of contradiction opposite law, which would stand in a contrary opposition to the law of contradiction, as Vasiliev suggests with his remark about the contradictory relation between the laws of the two logics.

4. Interestingly, Vasiliev indicates no logical law which holds in the imaginary logic but does not hold in the Aristotelian logic. In Vasiliev's new imaginary logic we have no new laws in comparison with the old Aristotelian logic. This way the imaginary logic proves

to be a partial system of the old Aristotelian logic ([3], p. 57). This of course contradicts the starting assertion of Vasiliev, that the new imaginary logic contains such laws, which contradict the laws of the old logic.

What the law of contradiction expresses is understood by Vasiliev in an ontological sense: "A can not be non-A. No object includes a contradiction into itself." ([3], p. 59). In this sense there is no doubt about the validity of the contradiction law in our world. There are no ontological situations in our world, in which assertive and negative judgments about the same object can be true. But there can be epistemic situations in which contradictory assertions can be formed about an object, which does not include a contradiction in itself. And such epistemic situations are not excluded by the laws, governing our world. So the existence of epistemic contradictions is entirely compatible with the soundness of the law of contradiction in our world. Without having to leave our world, space is made for the imaginary logic, if we are referring to epistemic worlds, worlds of assent or imagination, in which a sentence and its negation can be taken for true at the same time. These epistemic worlds differ from the ontological worlds not only in the fact that a sentence and its negation can be true simultaneously, but also in the fact that neither the sentence nor its negation are asserted or taken as true in the imagination, thus, neither the sentence nor its negation being epistemically true. The possibility of the imaginary logic is bound to the possibility of imaginary worlds and these worlds are epistemic worlds, not ontologically realized or realizable worlds, which are presupposed in a dialethic conception of logic. With the determination of imaginary worlds as epistemic worlds we absolutely agree with Vasiliev, who determines the imaginary

worlds (воображаемые миры) just as imaginable worlds, which can exist in our consciousness. The epistemic worlds are exactly such imagined worlds but not real worlds and they do not have to be ontologically possible worlds, although they are epistemically possible worlds.

In these epistemic worlds another logic than in the real world is actually valid. In epistemic worlds all sentences are true, which are explicitly agreed by the epistemic subject. However, what logically results from epistemic truth is also epistemically true. Therefore all logical consequences from sentences which are explicitly assented to by the epistemic subject are epistemically true. Epistemic truth in this sense is equivalent with what is normally captured by the idea of implicit assent or implicit belief. The logic, which determines whichever epistemic truths can be derived from given epistemic truths, is the imaginary logic. And this imaginary logic cannot be the traditional classical logic, which presupposes that a sentence or its negation has to be true and not both of them can be true. The imaginary logic has to live with the logical possibility that both a sentence and its negation are epistemically true and none of them is epistemically true. So the imaginary logic has to exclude not only the principle of contradiction and the excluded middle, but all those classical sound principles, which presuppose that a sentence and its negation cannot be both true and that one of them has to be true. This points in the direction of the system of the tautological entailments ([1], §§15, 19), ([2], §80) as the right imaginary logic.

However, with his idea of the imaginary logic Vasiliev remains in the traditional system of logic and considers only imaginary syllogistics. Unfortunately, he gives no hints how to construct an imaginary propositional logic in the modern sense. If we intend

to construct an imaginary propositional logic, which deviates from the classical logic just by the treatment of negation, but treats all other propositional connectives according to the classical semantic principles for these connectives, then we do not arrive at the system of tautological entailment, but at a system, which overlaps with the system of tautological entailments and has some similarities with intuitionistic logic.

### REFERENCES

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### **Н.А. ВАСИЛЬЕВ И СУДЬБЫ КЛАССИЧЕСКОЙ ЛОГИКИ В XX ВЕКЕ**

Судьба классической логики в Новое время печальна. Её престиж методически разрушался сначала Ф. Бэконом и Декартом, затем Гегелем, а в XX веке – “постмодернистами”.